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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/800,149	03/12/2004	Peter Andrew Frank	DYOUNP0266US	6793
23908	7590	03/11/2005	EXAMINER	
RENNER OTTO BOISSELLE & SKLAR, LLP 1621 EUCLID AVENUE NINETEENTH FLOOR CLEVELAND, OH 44115			WILSON, KATINA M	
			ART UNIT	PAPER NUMBER
			2856	

DATE MAILED: 03/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

11A

Office Action Summary	Application No.		Applicant(s)	
	10/800,149		FRANK, PETER ANDREW	
	Examiner		Art Unit	
	Katina M. Wilson		2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 10-18 is/are rejected.
- 7) ☒ Claim(s) 8,9,19 and 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03/12/04 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>03/12/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 5, 6, 12-14, 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Reich DE 3632855.

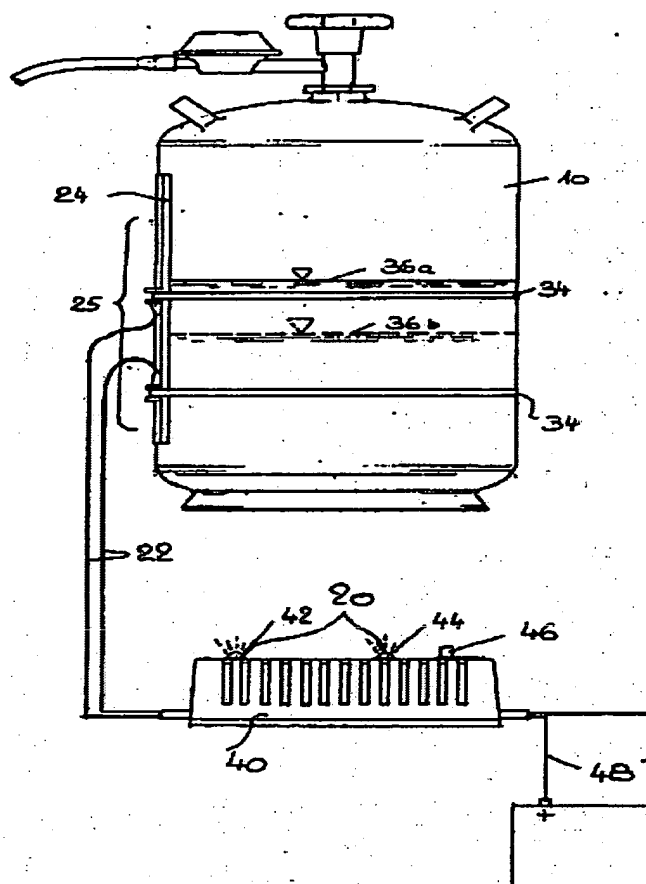
As to claim 1 and 18, Reich teaches a liquid gas level indicator comprising a pressurized tank 10, a plurality of temperature sensors 26 spaced apart from one another (figs. 1-3; col.3, lines 20-24), a processor operable to process the output of at least two of the temperature sensors (col. 4, lines 6-14), and an indicator means 44 for providing an indication of the liquid level in response to an output of the processor (col. 4, lines 6-14). (Abstract)

As to claim 2, Reich teaches temperature sensors spaced one above the other (Fig. 3, col. 3, lines 20-24).

As to claim 3, Reich teaches one or more of the temperature sensors comprises a thermistor 26 (col. 3, lines 22-27).

As to claims 5, 18, Reich teaches the processor is operable to respond to the difference between the outputs of the temperature sensors (col. 4, lines 6-14).

As to claim 6, 18, Reich discloses the use of a reference element (pre-set condition), therefore the processor must obviously be responsive to the absolute output of the reference element (temperature sensor).



As to claim 12, Reich teaches operation indicative means for confirming that the liquid level indicator is operational (fig. 2; col. 3, lines 61-63).

As to claim 13, Reich teaches operation indicative means comprises one or more light emitting devices (fig. 2; see Reich's claim 7).

As to claim 14-15, Reich teaches/shows sensor arrangement/equipment (housing) 25 (fig. 3, 4) comprising a main body 24 and a cover 30-32 attachable to the

main body, wherein housing structural unit includes attachment means 34 for attaching the housing to the container/gas tank whose liquid level is to be detected.

Claims 1-4, 6, 7, 18, are rejected under 35 U.S.C. 102(b) as being anticipated by Hasselmann (4672842).

As to claim 1-4, 6, 7 and 18, Hasselmann teaches a plurality of temperature sensors (top 34, middle 33, bottom 32, thermistor 36) spaced apart from one another (one above the other) on probe 31 sense the level and temperature and are fed to computer 24 via line 35, where computer 24 comprising a central processing unit 71 having real time clock input 72, memory 73 to contain all of the information needed, internal programs to perform the desired function (i.e. temperature variation). The clock means are provided in the computer to measure the time interval between measurements to calculate the leak rate therefore the computer is operable to process the output of the temperature sensors at pre set time interval (abstract, col. 5, lines 37-68, col. 6, lines 1-53).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10, 16^{and 17} are rejected under 35 U.S.C. 103(a) as being unpatentable over Reich in view of Jordan (GB 2277592 A).

Reich does not teach the indicator means comprises an audible alarm. However, Jordan teaches an audible alarm 13 connect to a battery 11 and a water level probe 14. It would have been obvious at the time the invention was made to a skilled person to modify Reich to include an audible alarm since the prior art Jordan teaches this well known expediency for alerting users of the liquid level.

As to claim 16, Reich does not teach the attachment means comprises at least one magnet for attachment to a metallic container. However, Jordan teaches the main body can be fitted by means of suckers, Velcro, magnets or screws. To employ magnetic attaching means would have been obvious at the time the invention was made to a skilled person since the prior art to Reich teaches alternatives attaching means such as suckers, Velcro, magnet, screws, etc. (see Jordan's claim 5).

As to claim 17, Jordan does not explicitly teach the magnet is a ring magnet, however it is obvious to a skilled artisan in the art at the time the invention was made that any type of attachment means may be used, even a ring magnet, to secure a temperature sensor arrangement to a contain to obtain the temperature of the fluid in the container.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Reich in view of Jordan in further view of Lozano, Jr. 4761638.

Neither Reich nor Jordan teaches the audible alarm comprises a piezo-electric sound generator. However, Lozano, Jr. teaches an audible signal device 64 is a piezo-electric beeper horn, which is actuate if there is electrical conducting fluid at probe 14 or tampering or breakage of probe. It would have been obvious at the time the invention

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was made to a skilled person to use piezo-electric beeper horn together with Lozano's, Jr. means and method for detecting presence of electrically conductive fluid to signal the operator the probe is contact with electrical conducting fluid or there is tampering or breakage of the probe.

Allowable Subject Matter

Claims 8-9, 18-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katina M. Wilson whose telephone number is 571-272-2209. The examiner can normally be reached on Mon-Fri 6:15am-4:00pm, off on Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron E. Williams can be reached on 571-272-2209. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KW


HEZRON WILLIAMS
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